

Spyder: A Dedicated CubeSat Launcher Project

Completed Technology Project (2015 - 2020)



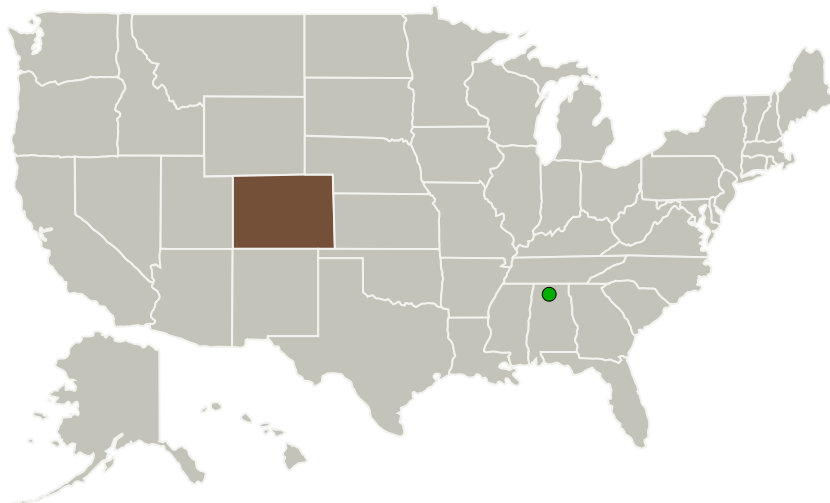
Project Introduction

Key Objectives: Collaborate with NASA MSFC Engineer's to flight qualify high performance, small, low cost solid rocket upper stage systems for the UP Aerospace Spyder orbital launch vehicle. **Methods to meet Objective:** Engineering design collaboration with solid rocket propulsion experts at NASA's MSFC. Upper stage test data and cost evaluation and implementation into an operational system. **Statement of Significance:** Provide NASA and commercial entities with a ~\$1M launch capability dedicated to placing CubeSat payloads into Low Earth Orbits. No such capability exists for NASA's use or within today's market place.

Anticipated Benefits

Provide NASA and commercial entities with a ~\$1M launch capability dedicated to placing CubeSat payloads into Low Earth Orbits. No such capability exists for NASA's use or within today's marketplace. These solicitations increase focus on collaborations with the commercial space sector that not only leverage emerging markets and capabilities to meet NASA's strategic goals, but also focus on industry needs. NASA's investments in industry partnerships can accelerate the availability of, and reduce costs for the development and infusion of, these emerging space system capabilities. While developing the technology to enable NASA's next generation of science and human exploration missions, we will grow the economy and strengthen the nation's economic competitiveness.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

UP Aerospace, Inc

Responsible Program:

Flight Opportunities

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Organizations Performing Work	Role	Type	Location
UP Aerospace, Inc	Lead Organization	Industry	Highlands Ranch, Colorado
● Marshall Space Flight Center(MSFC)	Supporting Organization	NASA Center	Huntsville, Alabama

Primary U.S. Work Locations

Colorado

Project Transitions

**November 2015:** Project Start**September 2020:** Closed out

Closeout Summary: This project supported development of a dedicated cubesat launcher, Spyder. Spyder is a small 6U cubesat payload launch vehicle that is dedicated to NASA, U.S. government, and commercial payloads. MSFC perform development tests. Spyder development was delayed due to COVID restrictions and supply chain issues. The final test of stage 1 is expected in the spring of 2022.

Project Management

Program Director:

Christopher E Baker

Program Manager:

John W Kelly

Principal Investigator:

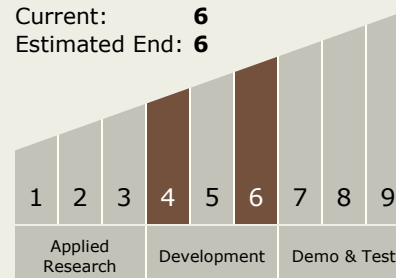
Jerry Larson

Co-Investigator:

Stacy M Counts

Technology Maturity (TRL)

Start: 4
Current: 6
Estimated End: 6



Target Destination

Earth